

FIG. 1

1	Customer Benefit Model									
2	A	B	C	D	E	F	G	H	I	
3										
4										
5	Files									
6	Project Name	052201e								
7	CBM Directory	C:\ianRawles\Projects\CBM\test\thomas2								
8	CBM DE Directory	C:\ianRawles\Projects\CBM\test\thomas2\So								
9	CBM Project Directory	C:\ianRawles\Projects\CBM\test\thomas2\projects\052201d								
10	Simulation Directory	C:\program files\simulation2000								
11										
12										
13	Time to run Simulation (days)	1								
14										
15										
16										
17										
18										
19										
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24										
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29										
30										
31										

Build your project and set up the directory for experiments

FIG. 2

Workflow

Create Project

Shift Data

Line Configuration

Board Data

Create Simulation

Save and Exit

	W	X	Y	Z	AA	AB
1	2					
3						
4						
5						
6						
7	C:\lanRawles\Projects\CBM\Natestthomas2					
8	C:\lanRawles\Projects\CBM\Natestthomas2\So					
9	C:\lanRawles\Projects\CBM\Natestthomas2\projects\052201d					
10						
11						
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30						
31						

FIG. 2A

	Name	Size	Type	Date & Time
Desktop	1	550KB	Microsoft Excel-Tab	16:05:01 13:21
	CBM.xls	550KB	Microsoft Excel-Tab	16:05:01 13:03
	CBM Reports.xls	550KB	Microsoft Excel-Tab	16:05:01 13:07
	CBM.transfer.xls	550KB	Microsoft Excel-Tab	16:05:01 13:08
My Computer				
Diskette A				
(C:)				
(D:)				
Data				
Recycler				
Trnn.XXXX				
CBA Calculator				
CTM				
COO				
Pricing				
S.G.S.				
Sales Training				
SPLACE CBM				
Projects				
Test 2001-05-16-01				
1				
Test 1				
Test 2				
Test 3				
Test 4				
So				
SPLACE CEM ARCHIVE				

FIG. 3

			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	2	Shift Schedule	Main																				
3		SHIFT 1	shift start	break 1 start	lunch	break 2	break 2 start	shift end	shift start	break 1 start	lunch	break 2	break 2 start	shift end	shift start	shift end							
4	Monday	14	7:00	7:00	12:00	13:00	13:00	15:00	15:00	20:00	21:00	21:00	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	
5	Tuesday	14	7:00	7:00	12:00	13:00	13:00	15:00	15:00	20:00	21:00	21:00	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	
6	Wednesday	14	7:00	7:00	12:00	13:00	13:00	15:00	15:00	20:00	21:00	21:00	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	
7	Thursday	14	7:00	7:00	12:00	13:00	13:00	15:00	15:00	20:00	21:00	21:00	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	
8	Friday	14	7:00	7:00	12:00	13:00	13:00	15:00	15:00	20:00	21:00	21:00	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	
9	Saturday	14	7:00	7:00	12:00	13:00	13:00	15:00	15:00	20:00	21:00	21:00	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	
10	Sunday	14	7:00	7:00	12:00	13:00	13:00	15:00	15:00	20:00	21:00	21:00	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	21:30	
11	Shifts apply for model	0																					
12	Initial Offset	0																					
13	Only lunch break applies	0																					
14	Breaks apply to machines	0																					
15	Weeks per year	50																					
16	Days off per year	2400																					
17	Hours per day	23.31																					
18	Hours per day/average	168.00																					
19	Hours per week/average	33.20																					
20	Hours per year/average	1600.00																					
21	Hours per year	22																					
22	shift start	1																					
23	1																						
24	2																						
25	3																						
26	4																						
27																							
28																							
29																							
30																							

FIG. 4

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
31				12	7:00		12:00	13:00			15:00		20:00	21:00			23:00				
32				13	7:00	8:00	8:15	12:00	12:30	15:00	15:15	19:30	20:00	20:15	0:00	0:30	3:00	3:15	7:00		
33				14	7:00			12:00	13:00			15:00		20:00	21:00			23:00			
34				15																	
35				16																	
36				17																	
37				18																	
38				19																	
39				20																	
40				21																	
41				22																	
42				23																	

FIG. 4A

FIG. 4B

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
31				4:00	5:00															
32																				
33																				
34																				
35																				
36																				
37																				
38																				
39																				
40																				
41																				
42																				

FIG. 4C

卷之三

FIG. 5A

	AU	AV	AW	AX	AY	AZ
1						
2						
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11						
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13						
14						
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16						
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32						
33						
34						

FIG. 5B

	AU	AV	AW	AX	AY	AZ
35			S20			
36			S23			
37			S25			
38			Shuttle-1 lane to 2 lane			
39			Shuttle-2 lane to 1 lane			
40			Telescopic Gate TG			
41			Turn Station TS			

FIG. 5C

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
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32																			
33																			
34																			

Return to the Main page

Line Configuration

[Insert](#) [Delete](#)

[Main](#) [Database](#)

1	# of access		# of transport system		assistant/min/shift		failure (h/min)		gratic		month		maintenance quantity			
	cells	cells	SD-Lane	Sync-Lane	MTBA	MTTR	MTBF	MTTR	MTBF	MTTR	MTBF	MTBA	MTTR	MTBF	MTTR	MTBF
2	Insert	Buffer	0	0	60	1	0	0	0	0	0	100	0	680	0	4080
3	row	Conveyor	0	1	60	1	0	0	0	0	0	200	0	680	0	4080
4	create	Printer	0	1	60	1	0	0	0	0	0	100	0	680	0	4080
5																
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32																
33																
34																

FIG. 6

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Line																		
Database																		
assists (min / min)																		
MTBF MTR																		
failure (h / min)																		
Level 1																		
MTBF MTR																		
Level 2																		
MTBF MTR																		
MTBF MTR																		
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MTBF MTR																		
MTBF																		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x 2SPL		1042		2	88	88	88	88	88	88	88	88	88	88	88	88	450
34	F4 x 3SPL		1043		3	88	88	88	88	88	88	88	88	88	88	88	88	875
35	F5		1050		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
36	F5 x 2SPL		1052		2	88	88	88	88	88	88	88	88	88	88	88	88	163,20
37	F5 x 3SPL		1053		3	88	88	88	88	88	88	88	88	88	88	88	88	450
38	Flop Station 180		7580		0	88	88	88	88	88	88	88	88	88	88	88	88	875
39	HS-50		1500		2	88	88	88	88	88	88	88	88	88	88	88	88	200
40	HS-50-1/2SPL		1502		4	88	88	88	88	88	88	88	88	88	88	88	88	850
41	HS-50-1/2SPL		1503		6	88	88	88	88	88	88	88	88	88	88	88	88	1250
42	Last Lift		7500		0	700	700	700	700	700	700	700	700	700	700	700	700	163,20
43	Magazine Buffer MB100		7520		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
44	Magazine Buffer MB50		7310		0	88	88	88	88	88	88	88	88	88	88	88	88	163,20
45	Magazine Lander ML02		7600		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
46	Magazine Lander ML05		7610		0	88	88	88	88	88	88	88	88	88	88	88	88	163,20
47	Magazine Unlader MU02		7601		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
48	Magazine Unlader MU05		9003		0	88	88	88	88	88	88	88	88	88	88	88	88	163,20
49	Printer pro-flow		9004		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
50	Printer pro-flow temp control		9001		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
51	Printer squeegee operation		9002		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
52	Printer squeegee operation temp control		9001		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
53	RX-261		8001		2	88	88	88	88	88	88	88	88	88	88	88	88	200
54	RX-262		8002		1	88	88	88	88	88	88	88	88	88	88	88	88	200
55	RX-331		8003		2	88	88	88	88	88	88	88	88	88	88	88	88	200
56	RX-332		8004		1	88	88	88	88	88	88	88	88	88	88	88	88	200
57	RX-333		8005		0	88	88	88	88	88	88	88	88	88	88	88	88	200
58	RX-411		8006		1	88	88	88	88	88	88	88	88	88	88	88	88	200
59	RX-412		1200		0	88	88	88	88	88	88	88	88	88	88	88	163,20	
60	S-20		1230		1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
61	S-23		1250		2	88	88	88	88	88	88	88	88	88	88	88	88	163,20
62	Shuttle - 1 lane to 2 lane		7100		0	88	88	88	88	88	88	88	88	88	88	88	88	100
63	Shuttle - 2 lane to 1 lane		7200		1	88	88	88	88	88	88	88	88	88	88	88	88	150
64	Telescopic Gate TG		7550		0	88	88	88	88	88	88	88	88	88	88	88	88	200
65	Turn Station TS		7570		1	88	88	88	88	88	88	88	88	88	88	88	88	200
66					0	88	88	88	88	88	88	88	88	88	88	88	88	163,20
67					1	88	88	88	88	88	88	88	88	88	88	88	88	163,20
68					0	88	88	88	88	88	88	88	88	88	88	88	88	163,20

FIG. 7A

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x 2 / SPL	1042																680.00
34	F4 x 3 / SPL	1043																680.00
35	F5	1050																680.00
36	F5 x 2 / SPL	1052																680.00
37	F5 x 3 / SPL	1053																680.00
38	Filo Station 180	7560																680.00
39	HS-50	1500																680.00
40	HS-50 x 2 / SPL	1502																680.00
41	HS-50 x 3 / SPL	1503																680.00
42	Last Lift	7590																680.00
43	Magazine Buffer MB100	7320																680.00
44	Magazine Buffer MB50	7310																680.00
45	Magazine Lander ML02	7600																680.00
46	Magazine Lander ML05	7610																680.00
47	Magazine Unloader MU02	7601																680.00
48	Magazine Unloader MU05	7611																680.00
49	Printer pro-flow	9003																680.00
50	Printer pro-flow tempo control	9004																680.00
51	Printer squeegee operation	9001																680.00
52	Printer squeegee operation temp control	9002																680.00
53	RX 261	8001																680.00
54	RX 262	8002																680.00
55	RX 331	8003																680.00
56	RX 332	8004																680.00
57	RX 411	8005																680.00
58	RX 412	8006																680.00
59	S-20	1200																680.00
60	S-23	1230																680.00
61	S-25	1250																680.00
62	Shuttle - 1 lane to 2 lane	7100																680.00
63	Shuttle - 2 lane to 1 lane	7200																680.00
64	Telescopic Gate TG	7550																680.00
65	Turn Station TS	7570																680.00
66																		680.00
67																		680.00
68																		680.00

FIG. 7B

TOTOON TRADE SIGN

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
69																		690.00
70																		680.00
71																		680.00
72																		680.00
73																		680.00
74																		680.00
75																		680.00
76																		680.00
77																		680.00
78																		680.00
79																		680.00
80																		680.00
81																		680.00
82																		680.00
83																		680.00
84																		680.00
85																		680.00
86																		680.00
87																		680.00
88																		680.00
89																		680.00
90																		680.00
91																		680.00
92																		680.00
93																		680.00
94																		680.00
95																		680.00
96																		680.00
97																		680.00
98																		680.00
99																		680.00

FIG. 7C

FIG. 7D

S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
33	4080.00	8160.00	600	8160.00	8160.00	8160.00	8160.00	8160.00	S25Cluster2_L1	S25Cluster2	Lift1	450			
34	4080.00	8160.00	900	8160.00	8160.00	8160.00	8160.00	8160.00	S25Cluster3_L1	S25Cluster3	Lift1	875			
35	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	S25_L1	S25	Conveyo001	200			
36	4080.00	8160.00	600	8160.00	8160.00	8160.00	8160.00	8160.00	S25Cluster2_L1	S25Cluster2	Lift1	450			
37	4080.00	8160.00	900	8160.00	8160.00	8160.00	8160.00	8160.00	S25Cluster3_L1	S25Cluster3	Lift1	875			
38	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Flip_Station	Printermc	Conveyo001	200			
39	4080.00	8160.00	350	8160.00	8160.00	8160.00	8160.00	8160.00	HS50_L1	HS50	Conveyo001	400			
40	4080.00	8160.00	900	8160.00	8160.00	8160.00	8160.00	8160.00	S25Cluster2_L1	S25Cluster2	Lift1	850			
41	4080.00	8160.00	1350	8160.00	8160.00	8160.00	8160.00	8160.00	S25Cluster3_L1	S25Cluster3	Lift1	1250			
42	4080.00	8160.00	100	8160.00	8160.00	8160.00	8160.00	8160.00	Lastlift	Lastlift	Lift4	700			
43	4080.00	8160.00	150	8160.00	8160.00	8160.00	8160.00	8160.00	Buffer_Magazine10	Buffer_Magazine10	Bl	100			
44	4080.00	8160.00	150	8160.00	8160.00	8160.00	8160.00	8160.00	Buffer_Magazine50	Buffer_Magazine50	Bl	100			
45	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Magazine_Loads1	Magazine_Loads1	Printermc	200			
46	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Magazine_Loads5	Magazine_Loads5	Printermc	200			
47	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Magazine_Uhlaide1	Magazine_Uhlaide1	Printermc	200			
48	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Magazine_Uhlaide5	Magazine_Uhlaide5	Printermc	200			
49	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Printer	Printer	Printermc	200			
50	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Printer	Printer	Printermc	200			
51	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Printer	Printer	Printermc	200			
52	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Oven_Lane	Oven_2	Conveyo001	200			
53	4080.00	8160.00	1400	8160.00	8160.00	8160.00	8160.00	8160.00	Oven_1Lane	Oven_2	Open_2001	700			
54	4080.00	8160.00	1400	8160.00	8160.00	8160.00	8160.00	8160.00	Oven_1Lane	Oven_2	Open_2001	700			
55	4080.00	8160.00	1400	8160.00	8160.00	8160.00	8160.00	8160.00	Oven_1Lane	Oven_2	Open_2001	700			
56	4080.00	8160.00	1400	8160.00	8160.00	8160.00	8160.00	8160.00	Oven_1Lane	Oven_2	Open_2001	700			
57	4080.00	8160.00	1400	8160.00	8160.00	8160.00	8160.00	8160.00	Oven_1Lane	Oven_2	Open_2001	700			
58	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Oven_Lane	Oven_2	Open_2001	700			
59	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	S25_L1	S25	Conveyo001	200			
60	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	S25_L1	S25	Conveyo001	200			
61	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	S25_L1	S25	Conveyo001	200			
62	4080.00	8160.00	100	8160.00	8160.00	8160.00	8160.00	8160.00	Shuttle_1	Shuttle	Shuttle	100			
63	4080.00	8160.00	100	8160.00	8160.00	8160.00	8160.00	8160.00	Shuttle_2	Shuttle	Shuttle	100			
64	4080.00	8160.00	150	8160.00	8160.00	8160.00	8160.00	8160.00	ConvTG	ConvTG	conv5_2001	150			
65	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00	Tun_Station	Tun_Station	Printermc	200			
66	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00							
67	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00							
68	4080.00	8160.00	200	8160.00	8160.00	8160.00	8160.00	8160.00							

FIG. 7E

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
69	4080.00				8160.00											
70	4080.00				8160.00											
71	4080.00				8160.00											
72	4080.00				8160.00											
73	4080.00				8160.00											
74	4080.00				8160.00											
75	4080.00				8160.00											
76	4080.00				8160.00											
77	4080.00				8160.00											
78	4080.00				8160.00											
79	4080.00				8160.00											
80	4080.00				8160.00											
81	4080.00				8160.00											
82	4080.00				8160.00											
83	4080.00				8160.00											
84	4080.00				8160.00											
85	4080.00				8160.00											
86	4080.00				8160.00											
87	4080.00				8160.00											
88	4080.00				8160.00											
89	4080.00				8160.00											
90	4080.00				8160.00											
91	4080.00				8160.00											
92	4080.00				8160.00											
93	4080.00				8160.00											
94	4080.00				8160.00											
95	4080.00				8160.00											
96	4080.00				8160.00											
97	4080.00				8160.00											
98	4080.00				8160.00											
99	4080.00				8160.00											

FIG. 7F

A	B	C	D	E	F	G	H	I	J	K	L	M
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	#	name	pc									
13	1	7300 Buffer	999	999	999	999	999	999	999	999	999	999
14	2	7511 Convolver	1060	999	999	999	999	999	999	999	999	999

FIG. 8

	N	O	P	Q	R	S	T	U	V	W	X	Y
1												
2	10	11	12	13	14	15	16	17	18	19	20	21
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13	999	999	999	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999	999	999	999

FIG. 8A

	Z	AA	AB	AC	AD	AE	AF	AG	AH
1									
2	22	23	24	25	26	27	28	29	30
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999

FIG. 8B

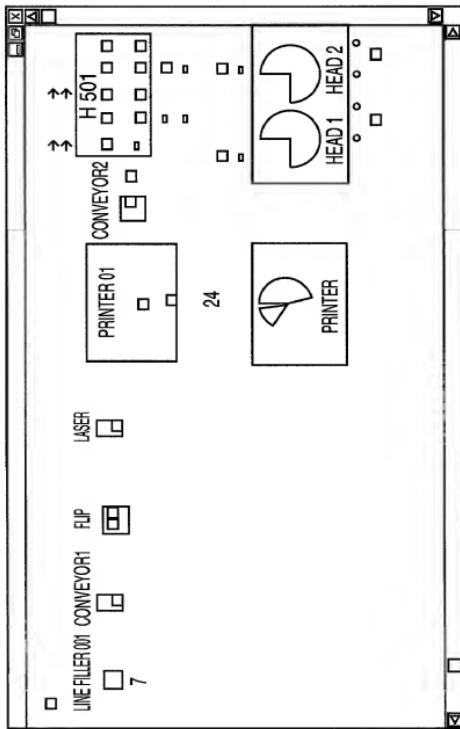


FIG. 9

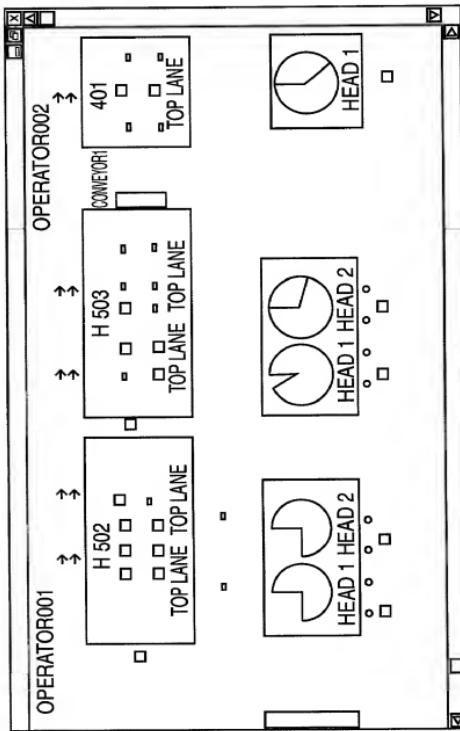


FIG. 9A

107090 "TRANSC 360

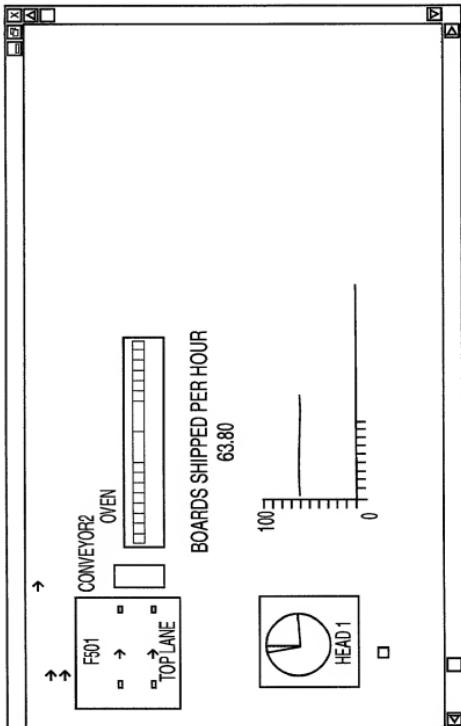


FIG. 9B

1	A	B	C	D	E	F	G	H	I	J	K	L
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												

FIG. 10

	A	B	C	D	E	F	G
Boundaries							
1	Project	Test!					
2	Date	31/March 2001					
3							
4							
5							
6	Financial						
7	Currency (Input)				0		
8	Currency (Output)				0		
9	Exchange ratio (In/Out)				0.00		
10	Depreciation				0.00%		
11	Interest Rate				0%		
12	Labor				0		
13	Operator				0.00		
14	Supervisor				0.00		
15	Maintenance				0.00		
16	Rework				0.00		
17	Utilities				0		
18	floorspace (year/sqm)				0.00		
19	electricity (kWh)				0.00		
20	Nitrogen (???)				0.00		
21	air (???)				0.00		
22							
23							
24							
25							
26							

FIG. 11

	A	B	C	D	E	F	G
Setup							
1							
2							
3	Internal setup						
4	Operator labor per hour	0.00					
5	setup changes every x h						
6	# of setup changes per week						
7	setup changes per year	0					
8	time per setup						
9	setup time per year						
10	internal setup costs	0.00					
11							
12	external setup						
13	external setup labour per hour	0					
14	external setup						
15	external setup per year						
16	Investment for external setup	0.00					
17							
18	external setup costs per year	0					
19							
20	setup costs	0					
21							

Main

FIG. 12

	A	B	C	D	E	F	G	H
Quality								
1	2	0						
2	material costs per board							
3	DPM							
4	components per board	500						
5	first pass yield	100%						
6	rework costs per board to rework	0						
7	scrap costs per board to rework	#DIV/0!						
8	rework costs per year	0						
9	scrap costs per year	0						
10	quality costs per year	#DIV/0!						
11		0						
12								
13								
14								
15								
16								
17								
18								

Main

FIG. 13

A	B	C	D	E	F	G	H	I
Maintenance		minutes	# of workers	who does maint.	downtime factor	line operator (h)	maint. team (h)	downtime (h)
1	2	0	1	100%	0.00	0.00	#DIV/0!	
	line workers							
	3	1	1	100%	0.00	0.00	#DIV/0!	
	maintenance per shift (min)							
	4	2	1	100%	#DIV/0!	0.00	#DIV/0!	
	maintenance weekly (min)							
	5	3	2	100%	#DIV/0!	0.00	#DIV/0!	
	maintenance monthly add. (min)							
	6	3	3	100%	0.00	0.00	#DIV/0!	
	maintenance quarterly add (min)							
	7	3	100%	#DIV/0!	0.00	0.00	#DIV/0!	
	maintenance every x h add (min)							
	8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	
	maintenance time calculated (h)							
	9							
	10							
	11	maintenance costs per year						
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							

Main

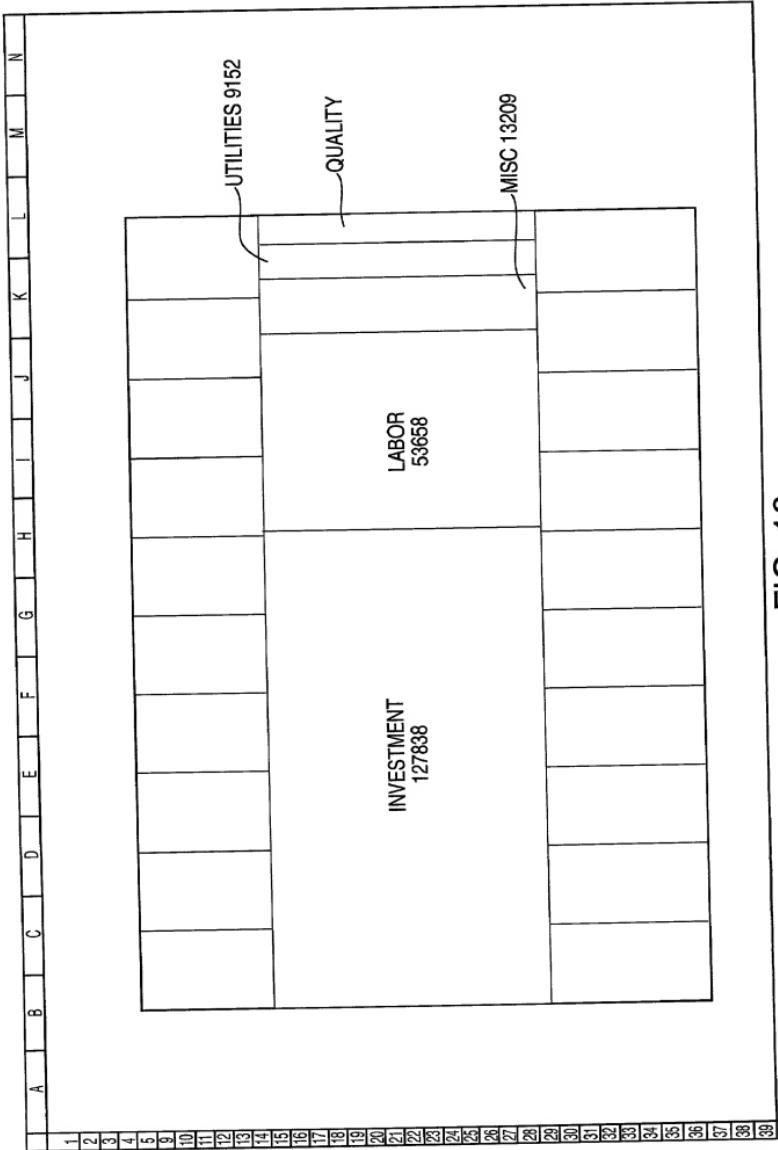
FIG. 14

	A	B	C	D	E	F	G	H	I	J	K
1	Cost of Ownership			Cost per year	Cost per board	%	Capacity				
2	Investment										
3	Investments										
4	spareparts										
5	service										
6											
7											
8	Labor										
9	Operations										
10	Supervisor										
11											
12											
13	Misc.										
14	Setup										
15	Maintenance										
16											
17											
18	Utilities										
19	Floorspace										
20	Electricity										
21	Nitrogen										
22	Air										
23											
24											
25	Quality										
26	rework costs per year										
27	scrap costs per year										
28											
29											
30	Costs per year										
31											

Main

FIG. 15

FIG. 16



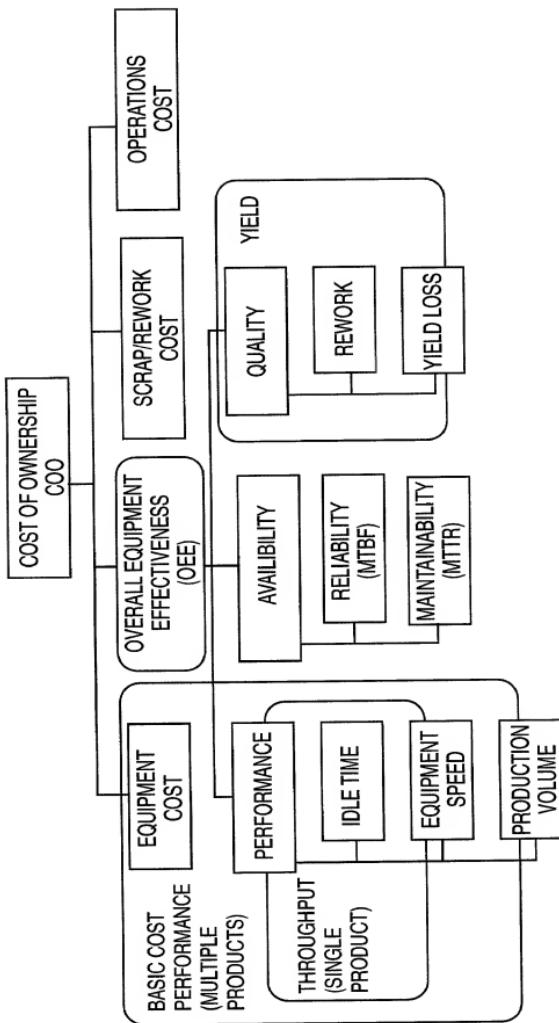


FIG. 16A

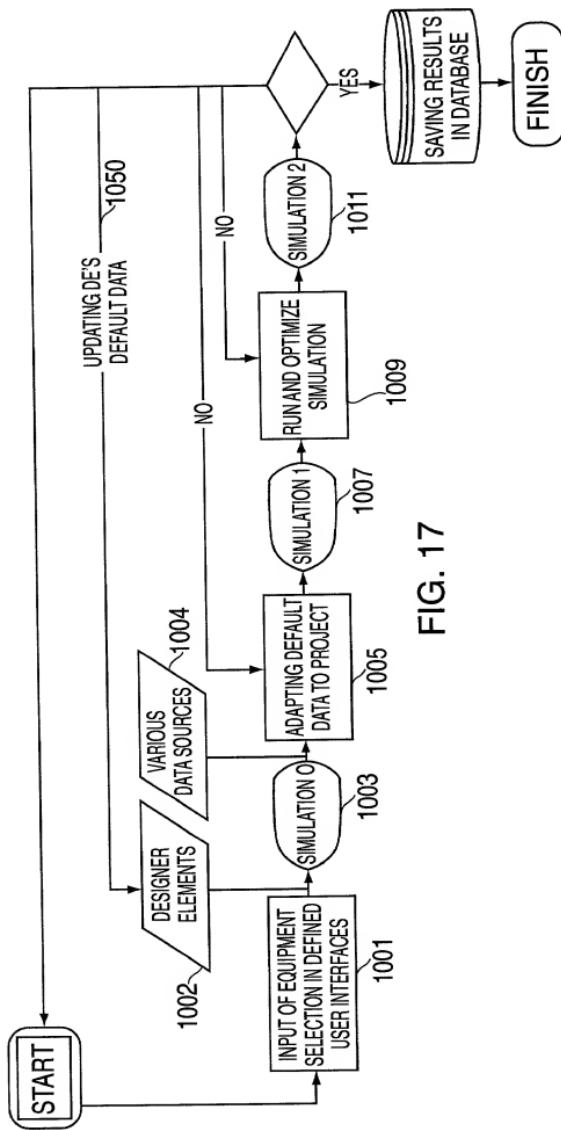


FIG. 17

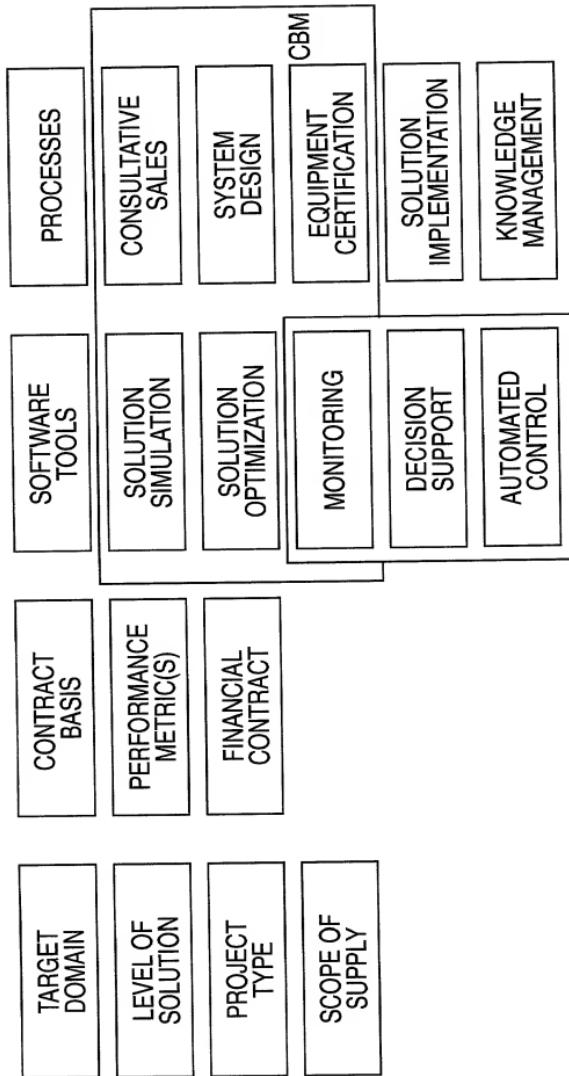


FIG. 18

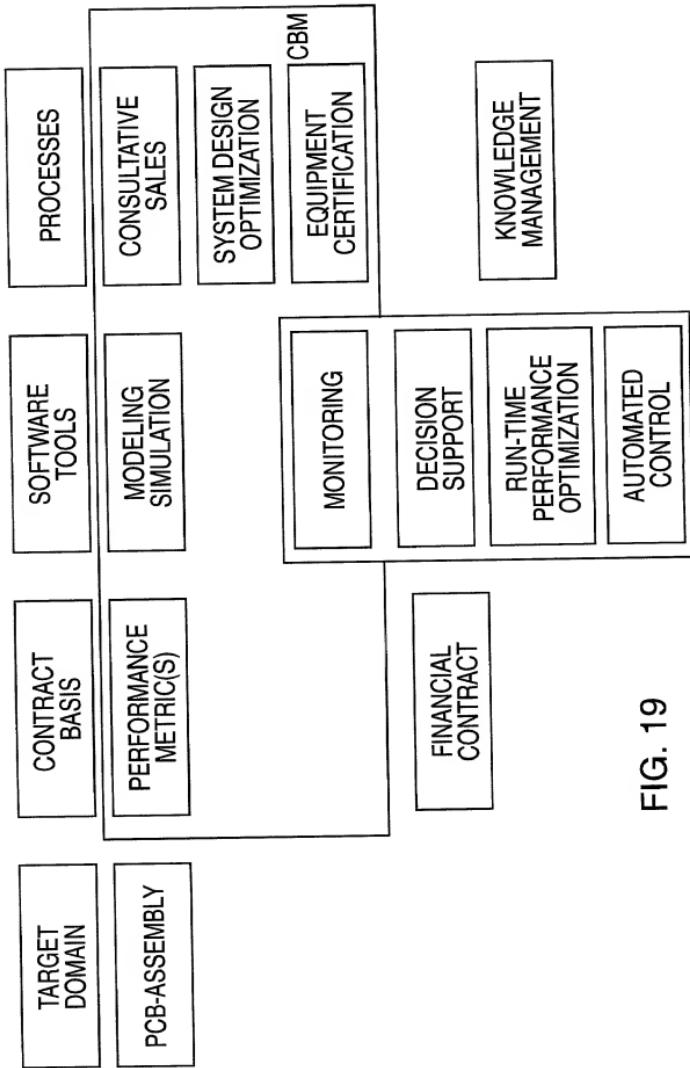


FIG. 19

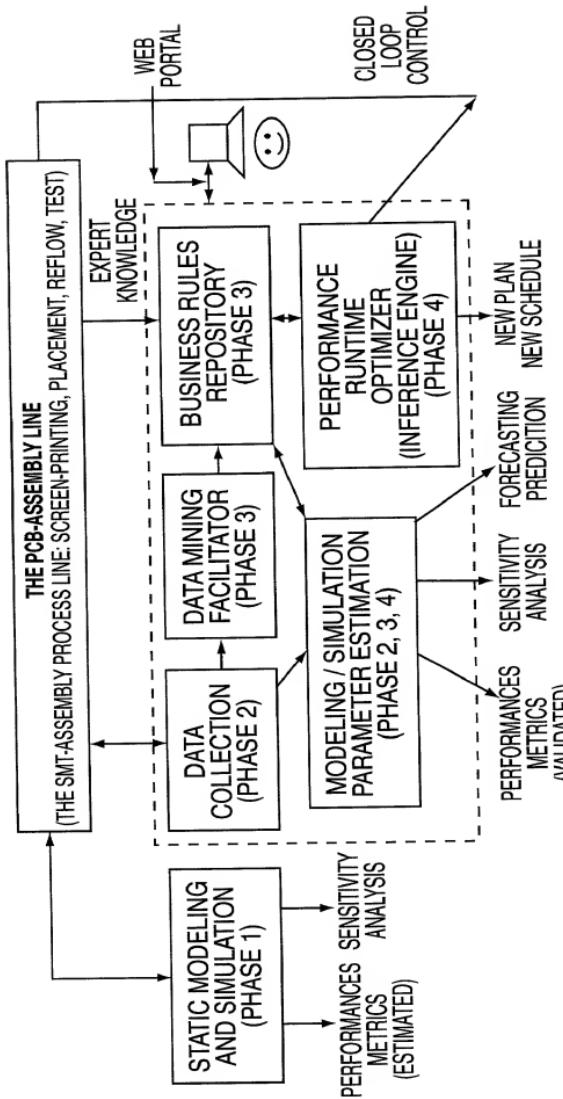
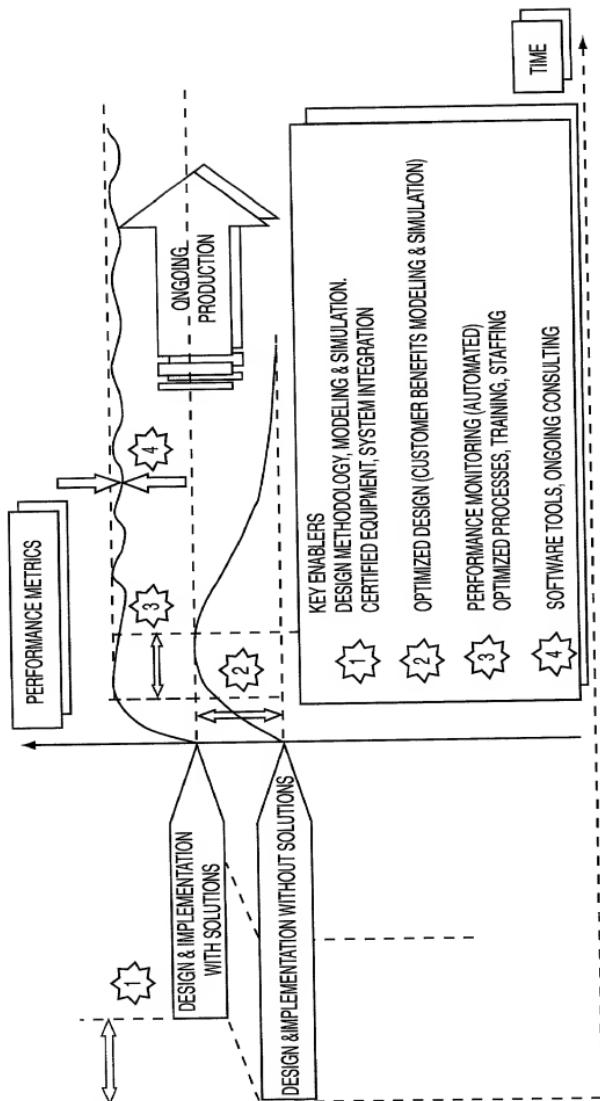


FIG. 20



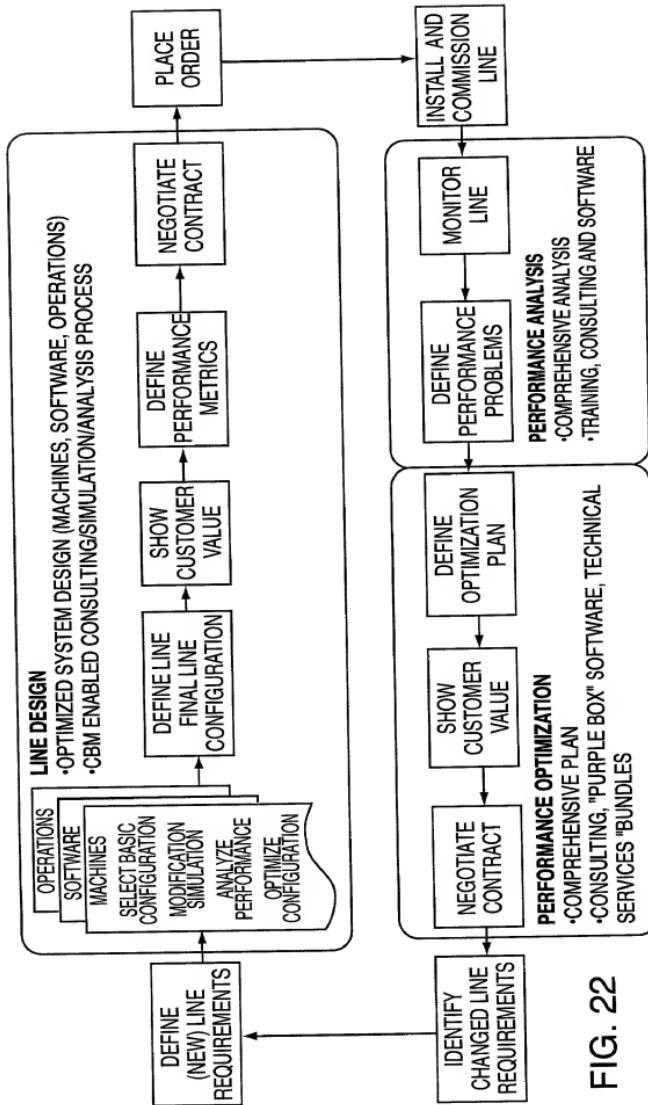
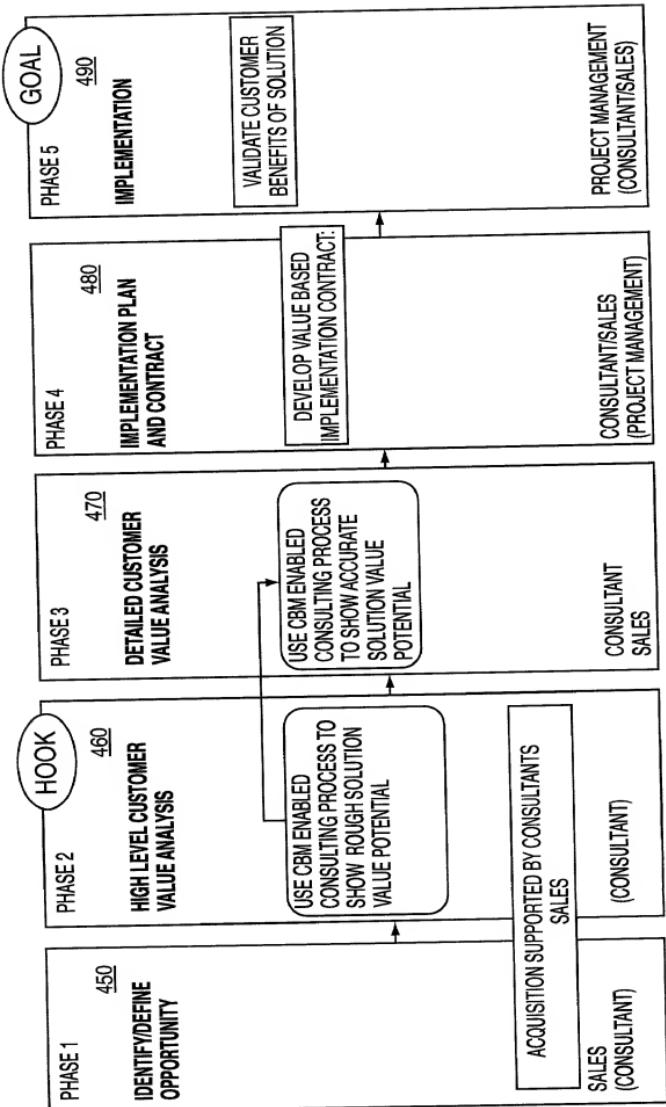


FIG. 22



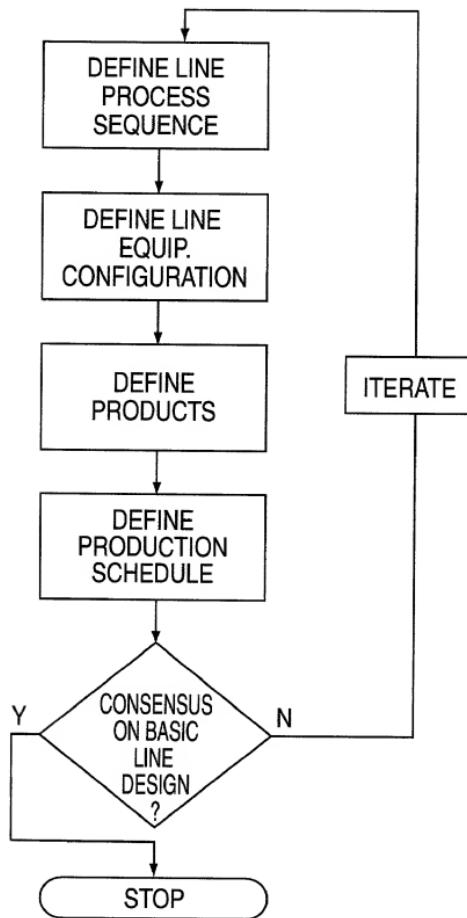


FIG. 24

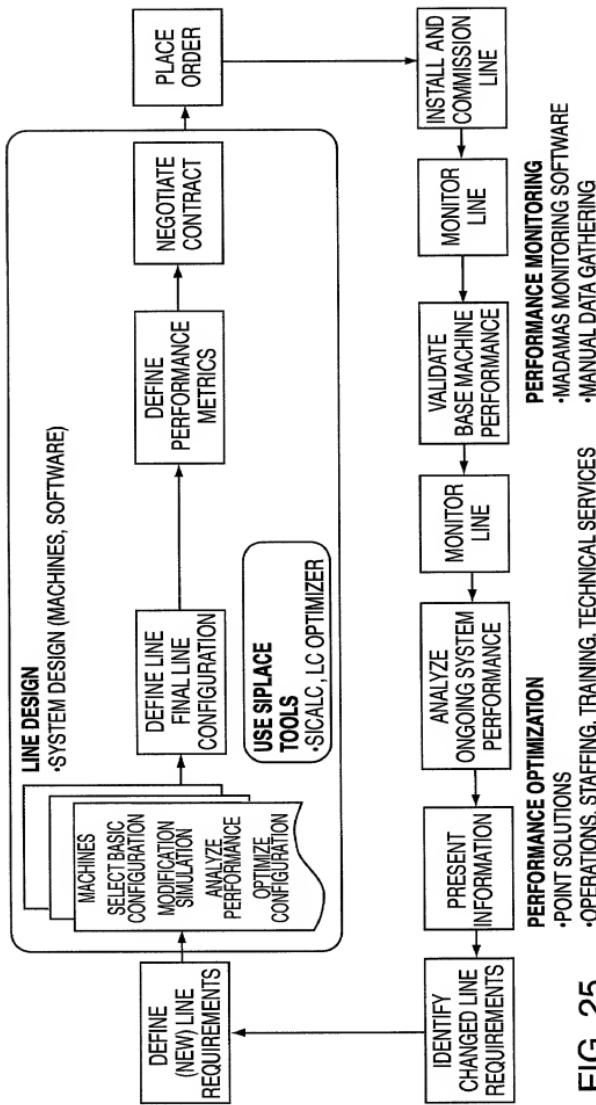
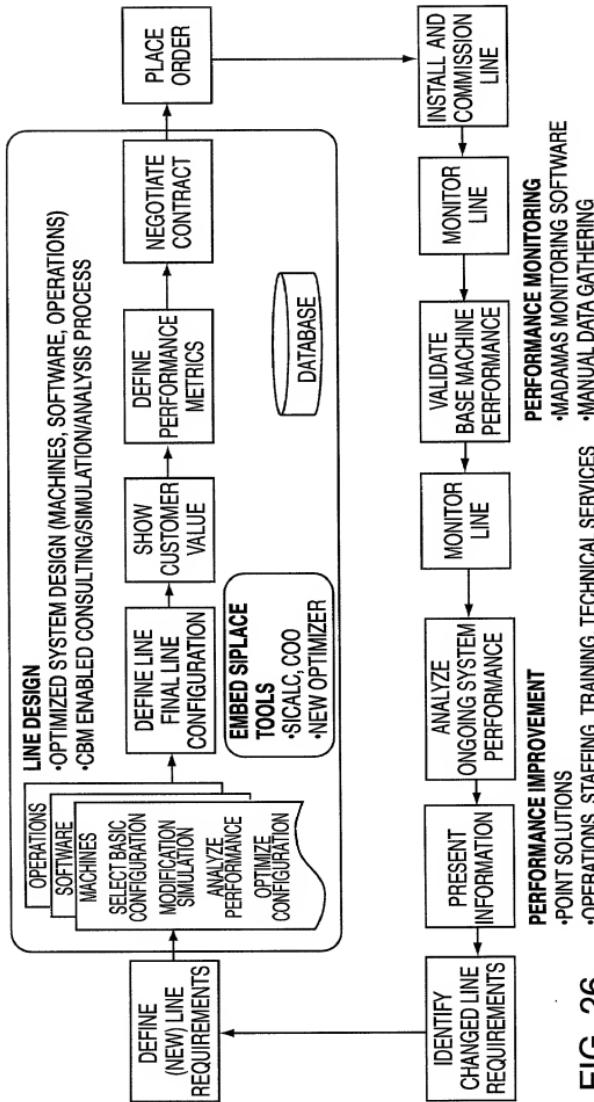


FIG. 25



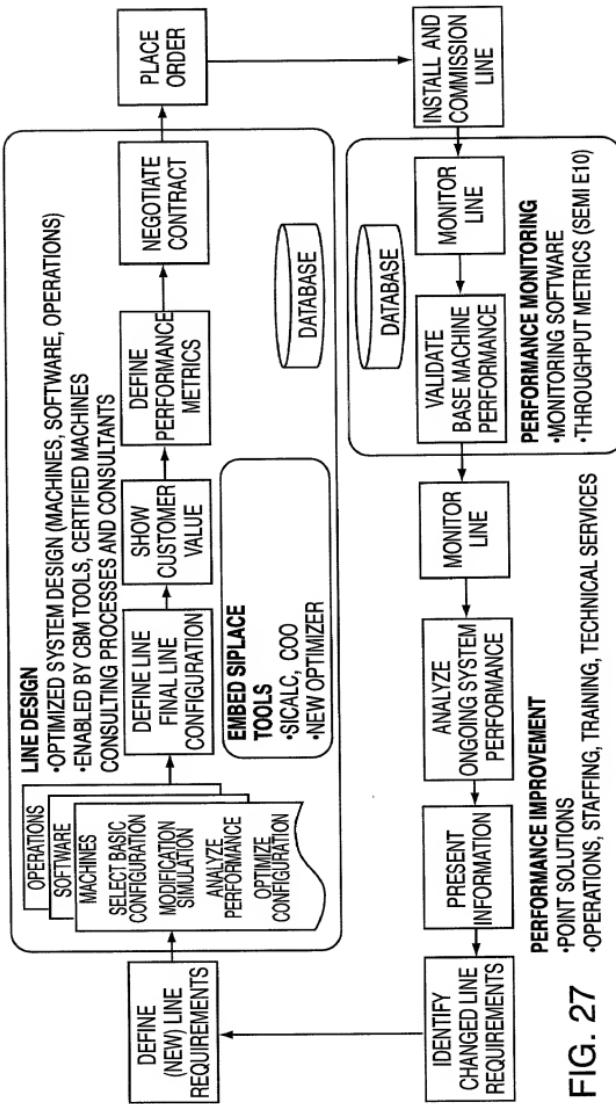


FIG. 27

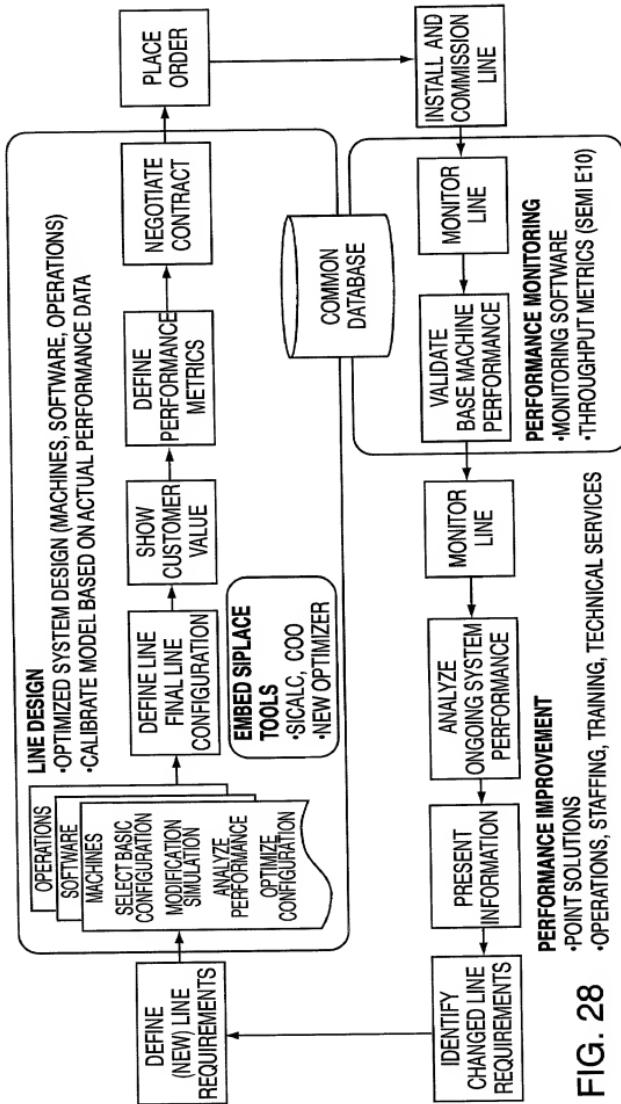


FIG. 28

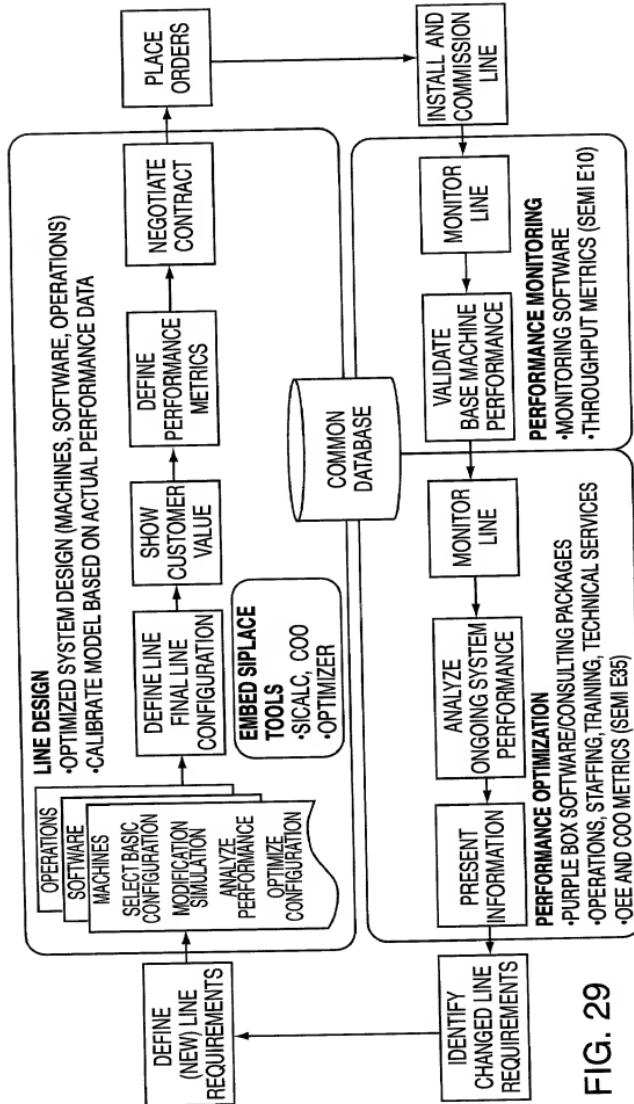


FIG. 29

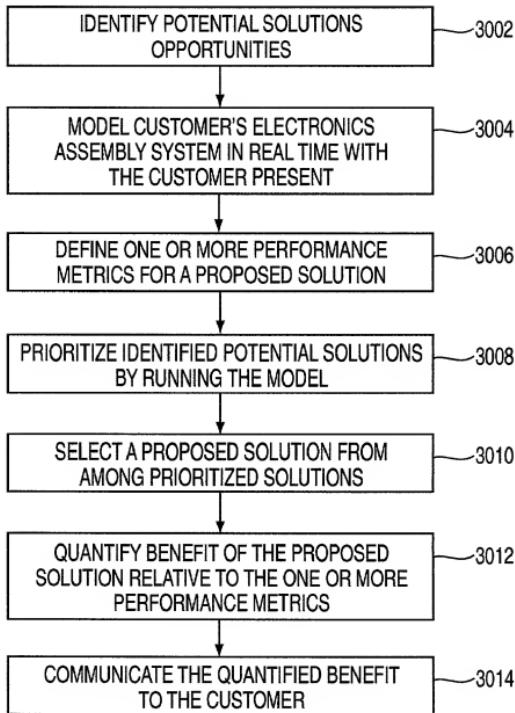


FIG. 30

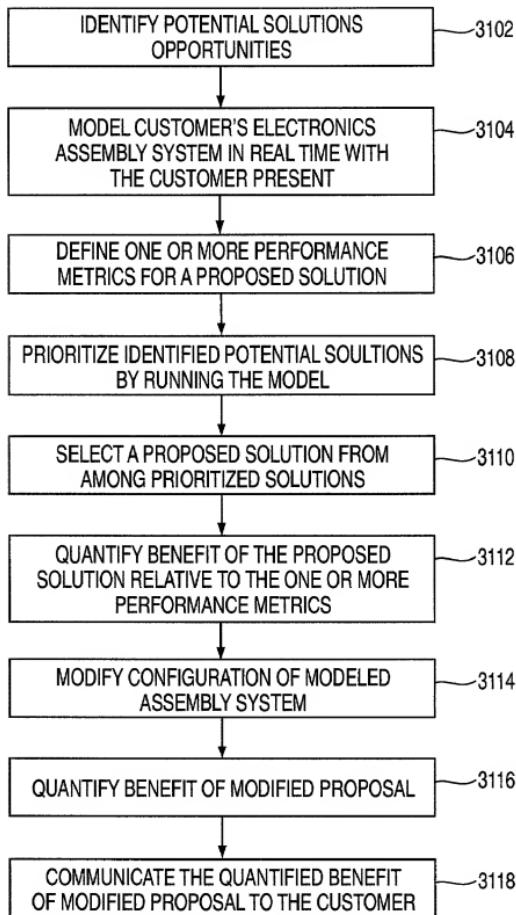


FIG. 31

09873024.060101

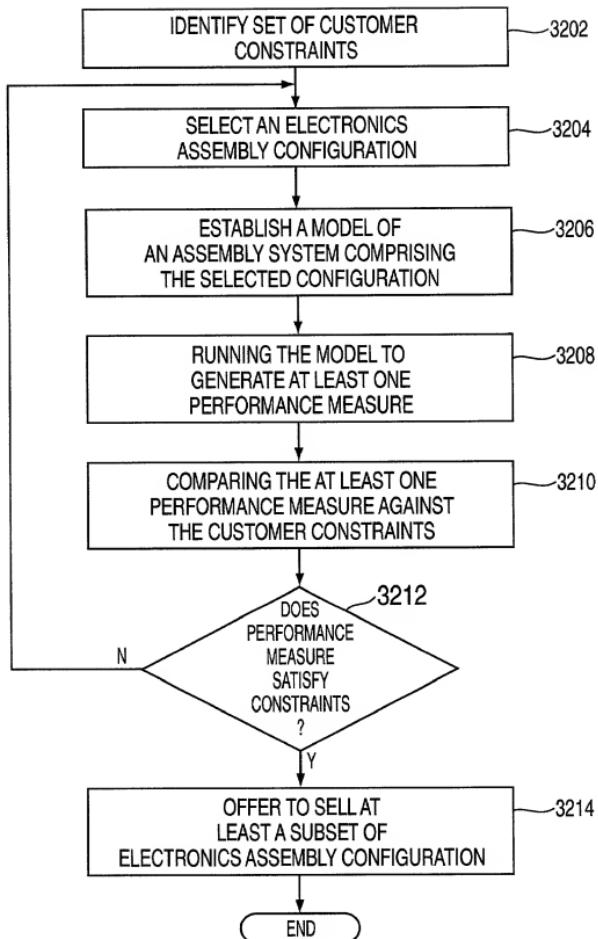


FIG. 32

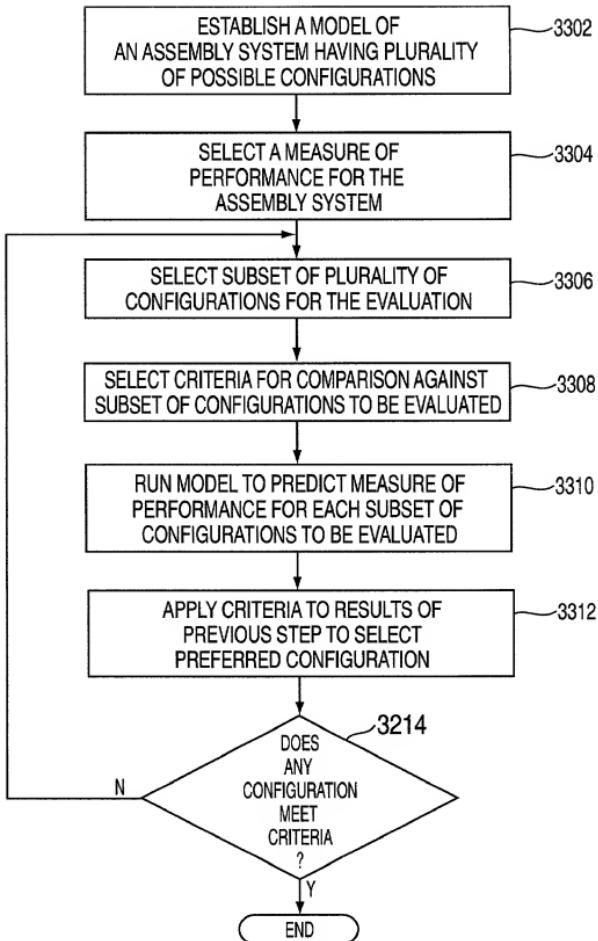


FIG. 33

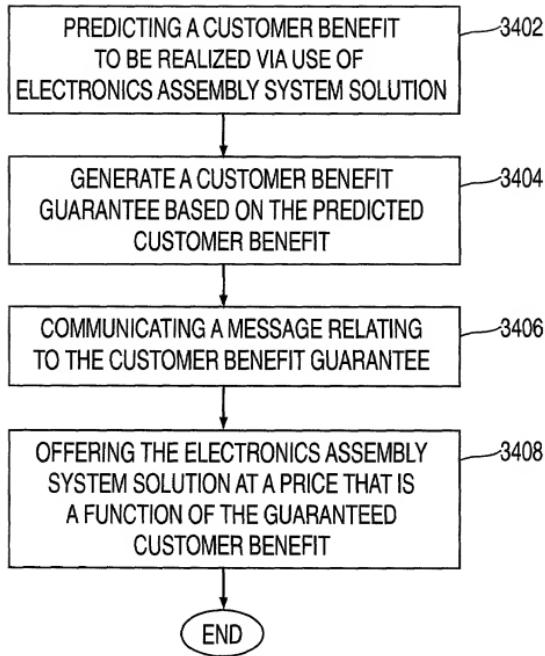


FIG. 34

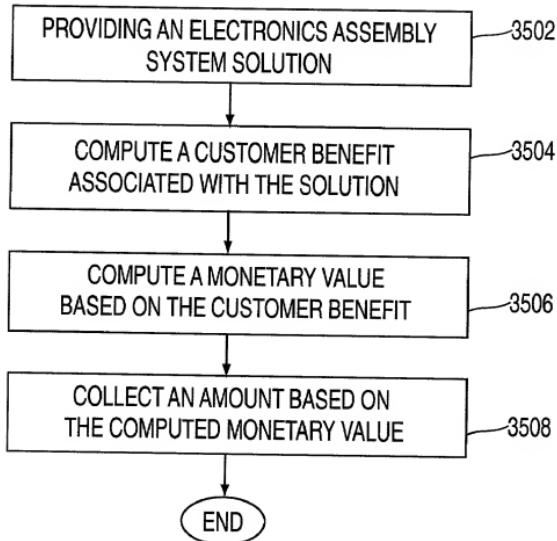


FIG. 35

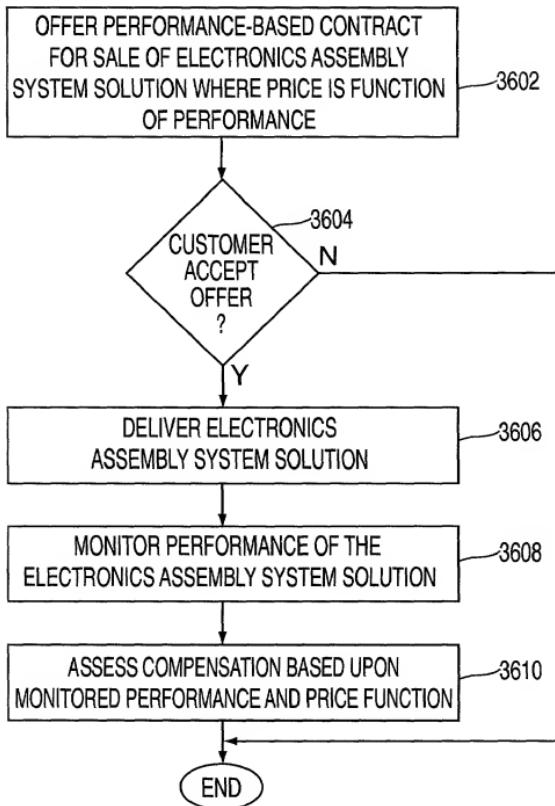


FIG. 36